

## INTISARI

SUKMASIH, AD., 2013, FORMULASI MUCOADESIVE BUCCAL PATCH ISOSORBID DINITRAT DENGAN VARIASI KONSENTRASI PVP-K29 DAN CMC-Na SEBAGAI MATRIKS, SKRIPSI, FAKULTAS FARMASI, UNIVERSITAS SETIABUDI, SURAKARTA.

Patch bukal adalah sediaan yang digunakan dengan ditempelkan di mukosa bukal sehingga masalah-masalah seperti *first pass metabolisme*, menghindari pre-eliminasi sistemik saluran GI dapat diatasi. Isosorbide dinitrate adalah obat yang digunakan untuk penanganan angina pectoris, didalam pemberiannya melalui oral hanya mempunyai bioavailabilitas 29% dan dirombak pesat dalam hati, waktu paruh 45-60 menit. Penelitian ini digunakan Isosorbide dinitrate dalam patch bukal dengan variasi konsentrasi CMC-Na dan PVP-K29 sebagai matriks.

Uji sifat fisik meliputi keseragaman bobot, *folding endurance*, *surface pH*, *swelling indeks* dan keseragaman kandungan. Uji pelepasan in vitro menggunakan USP tipe II metode *rotating paddle* kecepatan 50 rpm dengan media disolusi aqua bidestilata 500 ml. Penetapan kadar menggunakan kromatografi cair kinerja tinggi detektor UV 220nm, fase gerak methanol pro HPLC dan aqua bidestilata (50:50).

Hasil penelitian menunjukkan bahwa perbandingan 70:30 menunjukkan hasil *Swelling Indeks* menit 180 sebesar 326,268 %, persen disolusi menit ke 480 sebesar 90,625% mengikuti kinetika orde nol dengan cara difusi.

**Kata kunci** : Patch Bukal, Isosorbid Dinitrate, PVP-K29, CMC-Na, Sifat fisik dan Pola pelepasan

## **ABSTRAK**

SUKMASIH, AD., 2013, FORMULATION MUCOADHESIVE BUCCAL PATCH ISOSORBIDE DINITRATE WITH VARIATION CONCENTRATION MATRIKS PVP-K29 AND CMC-Na, SKRIPSI, FACULTY OF PHARMACY, SETIABUDI UNIVERSITY, SURAKARTA.

Buccal patch is a preparation used to put on the buccal mucosa so that issues such as first-pass metabolism, avoid pre-elimination systemic GI tract can be overcome. Isosorbide dinitrate is nitrate which used for anti angina, inside of administration through the oral only have bioavailability 29% and overhauled in the liver, time half-life 45-60 minutes.

This study used Isosorbide dinitrate in Buccal patch with various concentrations of CMC-Na and PVP-K29 as a matrix, to determine the physical properties and release kinetics of isosorbide dinitrate. Physical properties test included weight uniformity, folding endurance, surface pH, swelling index and uniformity of content. In vitro release test using USP Type II method of rotating paddle speed of 50 rpm with the dissolution medium bidestilled water 500 ml. The study used high performance liquid chromatography UV detector 220nm, mobile phase methanol pro HPLC and bidestilled water (50:50).

The results showed that the ratio of 70:30 showed the results of Swelling Index at minutes 180 was 326.268%, dissolution percent at minutes 480 was 90.625%, followed the kinetics of zero order by diffusion.

**Keywords:** Patch, isosorbide dinitrate, PVP-K29, CMC-Na, physical properties and the pattern of release